

## ABSTRACT

[0075] The present invention relates to the use of  $\alpha$ -conotoxin peptides having the general formula Xaa<sub>1</sub>-Xaa<sub>2</sub>-Cys-Cys-Xaa<sub>3</sub>-Xaa<sub>4</sub>-Pro-Xaa<sub>5</sub>-Cys-Xaa<sub>6</sub>-Xaa<sub>7</sub>-Xaa<sub>8</sub>-Xaa<sub>9</sub>-Xaa<sub>10</sub>-Xaa<sub>11</sub>-Xaa<sub>12</sub>-Cys (SEQ ID NO:1) for treating disorders regulated at neuronal nicotinic acetylcholine receptors. Such disorders include, but are not limited to, cardiovascular disorders, gastric motility disorders, urinary incontinence, nicotine addiction, mood disorders (such as bipolar disorder, unipolar depression, dysthymia and seasonal effective disorder) and small cell lung carcinoma, as well as the localization of small cell lung carcinoma. In this formula, Xaa<sub>1</sub> is des-Xaa<sub>1</sub>, Tyr, mono-iodo-Tyr or di-iodo-Tyr, Xaa<sub>2</sub> is any amino acid, Xaa<sub>3</sub> is any amino acid, Xaa<sub>4</sub> is any amino acid, Xaa<sub>5</sub> is any amino acid; Xaa<sub>6</sub> is any amino acid, Xaa<sub>7</sub> is any amino acid, Xaa<sub>8</sub> is any amino acid, Xaa<sub>9</sub> is des-Xaa<sub>9</sub> or any amino acid, Xaa<sub>10</sub> is des-Xaa<sub>10</sub> or any amino acid, Xaa<sub>11</sub> is des-Xaa<sub>11</sub> or any amino acid and Xaa<sub>12</sub> is des-Xaa<sub>12</sub> or any amino acid. Disulfide linkages exist between the first and third cysteines and the second and fourth cysteines. Pro may be replaced with hydroxy-Pro. The C-terminus may contain a hydroxyl or an amide group, preferably an amide group.